

# EXEMPLAR SOLUTIONS Science

## Chapter 1 Crop Production and Management

Class

8



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## Chapter 1

### Crop Production and Management

#### Multiple Choice Questions

1. Which one of the following condition is not essential to grow maize?

- (a) High temperature
- (c) Low temperature
- (b) Humidity
- (d) Rainfall

**Soln:**

Answer is (c) Low temperature

**Explanation:**

Maize is grown in warm and tropical climate. Optimum temperature for growing maize is between  $18^{\circ}\text{C}$  -  $27^{\circ}\text{C}$  in day and  $14^{\circ}$  -  $15^{\circ}\text{C}$  in night. Hence cold climate is not essential to grow maize.

2. Propagation of ginger is generally done using

- (a) seed
- (c) root
- (b) stem (rhizome)
- (d) leaf

**Soln:**

Answer is (b) stem (rhizome)

**Explanation:**

Ginger is modified underground stem which will propagate vegetatively by its stem. Ginger does not propagate by its root, stem or leaf.

3. Which of the following statement is not true for organic manure?

- (a) It enhances water holding capacity of soil.
- (b) It has a balance of all plant nutrients.
- (c) It provides humus to soil.
- (d) It improves texture of soil.

**Soln:**

Answer is (b) It has a balance of all plant nutrients.

**Explanation:**

Organic manure is obtained by decomposition of plants and animal waste which make the soil nutrient rich. But it does not mean that organic manure provides all the nutrients in required amount hence option b) is wrong.



**4. The term used for the process of separation of grains from chaff is**

- (a) sieving
- (b) threshing
- (c) winnowing
- (d) hand picking

**Soln:**

Answer is (c) winnowing

**Explanation:**

Winnowing is a process used to separate grains from chaff by removing the scaly inedible chaff surrounding the grain. A machine called as Combine is used for this process. Combine is a mixture of harvester and thresher.

**5. Read the statements given below.**

- (i) Seeds require moisture for germination.
- (ii) Plants can absorb nutrients mostly in dissolved form.
- (iii) Irrigation protects crops from both frost and hot air currents.
- (iv) Irrigation improves soil texture.

**Choose the combination of statements which indicate the need to irrigate crops.**

- (a) i and ii
- (b) i, ii, iii
- (c) i, ii, iii, iv
- (d) i and iii

**Soln:**

Answer is (a) i and ii

**Explanation:**

Irrigation supplies water to the crops when required and this will help the seed germinate by providing moisture to seed. Plants readily absorb nutrients along with water in a dissolved form.

**6. Which of the following tools would a farmer use to remove weeds from the field?**

- (a) Hoe
- (b) Axe
- (c) Plough
- (d) Cultivator

**Soln:**

Answer is (a) Hoe

**Explanation:**

Hoe is used to remove weeds and to loosen the soil. Hoe works like a blade. Axe is used to cut the trees. Plough is used for tilling of soil. Cultivator is used for ploughing.

**7. Which of the following is not true for fertilisers?**

- (a) They increase the yield.
- (b) Their excessive use disturbs the balance of nutrients in soil.
- (c) They are generally used in small quantity.
- (d) They are environment friendly.

**Soln:**

Answer is (d) They are environment friendly.

**Explanation:**

Fertilisers are the chemical substance that are rich in particular nutrients. It is true that fertilizers helps in yield increase. But long term and excess usage of fertilizers will reduce soil fertility and pollutes the water bodies. By seeing through rain.

**8. Given below are statements about the harmful effects of weeds on crop plants.**

- (i) They interfere in harvesting.
- (ii) They help crop plants to grow healthily.
- (iii) They compete with crop plants for water, nutrients, space and light.
- (iv) They affect plant growth. Choose the correct combination of statements.

- (a) i, iii, iv
- (b) iii only
- (c) iii, iv
- (d) i, ii, iii, iv

**Soln:**

Answer is (a) i, iii, iv

**Explanation:**

Weeds are the unwanted plants that grow along with the grown crops. They compete for nutrient, water and sunlight with crops thereby affect the health of crops and the yield.

**9. The process of loosening and turning of soil is called**

- (a) irrigation and manuring
- (c) tilling and ploughing
- (b) digging and winnowing
- (d) harvesting and storage

**Soln:**

Answer is (c) tilling and ploughing

**Explanation:**

Tilling and ploughing are the first steps in preparing the land for cultivation. Ploughing is done by using plough which is made of either wood or iron.

**10. The monsoon season in our country is during the months**

- (a) April to December
- (b) June to September
- (c) November to March
- (d) January to May

**Soln:**

Answer is (b) June to September

**11. The system of irrigation where in water is supplied drop by drop near the roots of plants, is called**

- (a) pulley system
- (b) drip system
- (c) sprinkler system
- (d) lever system

**Soln:**

Answer is (b) drip system

**Explanation:**

Pulley system is traditional irrigation methods where water is lifted from well or other water sources and crops are watered. This is done by using pulley chain and human labor or animals.

The perpendicular pipes, having rotating nozzles on top, are joined to the main pipeline at regular intervals. When water is allowed to flow through the main pipe under pressure with the help of a pump, it escapes from the rotating nozzles. It gets sprinkled on the crop as if it is raining

Lever system is traditional irrigation methods where human or animals are used to lift the water from its source. This is less efficient method for irrigation.

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**Very Short Answer Questions**

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**12. Pick out the odd one from the following words given in the box and give reason for it.**

**Plough, Seed Drill, Hoe, Chain Pump, Sickle**

**Soln:**

Answer is Seed drill. Seed drill is a modern equipment used to sow the seeds. Whereas Plough, Hoe, Chain pump and sickle are old and traditional equipment's used in agriculture.

**13. If you are given a dry piece of land for cultivation what will you do before sowing the seeds?**

**Soln:**

Before sowing seeds land should be prepared for cultivation. Tilling and ploughing are the first steps in preparing the land for cultivation. Ploughing is done by using plough which is made of either wood or iron.

**14. State whether the following statements are True or False. Correct the false statements.**

- (i) Using good quality seed is the only criterion to get high yield.
- (ii) Growing different crops in different seasons in the same field will deplete the soil of nutrients.
- (iii) All crop plants are sown as seeds in the field.
- (iv) Cells of root nodules of leguminous plants fix nitrogen.
- (v) Freshly harvested grains must be dried before storing.

**Soln:**

- i) False  
To get good yield appropriate agricultural practice, nutrients water is very essential along with good quality seeds.
- ii) False  
It enriches the soil
- iii) False  
Some crops needs transplantation Ex: Ginger
- iv) False  
Bacteria called as Rhizobium present in the root nodules of leguminous plants fix nitrogen
- v) True

**15. During which months do farmers grow mustard in India?**

**Soln:**

Answer is **October to March**

**16. Which activity of the farmer can promote growth of earthworms and microbes in the field?**

**Soln:**

Loosening the soil/maintaining high moisture levels in soil.



### Short Answer Questions

**17. Beera, wants to practice crop rotation in his field. Suggest a Rabi crop and a Kharif crop which will replenish his field with nitrogen. Which crop replenishes nitrogen and why?**

**Soln:**

Kharif : Rice or Soyabean,  
Rabi : Pea or Wheat.

Pea/Soyabean are legumes that will fix nitrogen with the help of Rhizobium.

**18. Match the agricultural implements given in Column A with their use given in Column B.**

Column A	Column B
(i) Sickle	(a) Ploughing
(ii) Hoe	(b) Sowing
(iii) Seed Drill	(c) Harvesting
(iv) Sprinkler	(d) Irrigation

**Soln:**

Column A	Column B
(i) Sickle	(c) Harvesting
(ii) Hoe	(a) Ploughing
(iii) Seed Drill	(b) Sowing
(iv) Sprinkler	(d) Irrigation

**19. What are organic foods?**

**Soln:**

Food crop grown without using any chemicals including fertilizers, weedicides and pesticides are known as organic food.

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tamso ma jyotirgamaya

20. From the word puzzle given as Fig. 1.1 find atleast eight words which are 'farmer's friends.' Classify them into living and non living.

B	S	E	I	L	O	R	U	A	Z	Z
O	E	A	R	T	H	W	O	R	M	K
E	E	Z	L	G	O	H	Y	H	I	U
X	D	N	U	R	E	A	S	I	C	S
D	M	O	X	P	T	K	Y	Z	R	B
C	L	R	B	U	L	L	F	O	O	X
P	W	K	V	R	A	O	E	B	B	C
I	Q	P	G	B	G	C	W	I	E	M
M	A	N	U	R	E	V	J	U	S	P
Q	X	F	U	S	A	Z	T	M	U	V

Fig. 1.1

Soln:

B	S	E	I	L	O	R	U	A	Z	Z
O	E	A	R	T	H	W	O	R	M	K
E	E	Z	L	G	O	H	Y	H	I	U
X	D	N	U	R	E	A	S	I	C	S
D	M	O	X	P	T	K	Y	Z	R	B
C	L	R	B	U	L	L	F	O	O	X
P	W	K	V	R	A	O	E	B	B	C
I	Q	P	G	B	G	C	W	I	E	M
M	A	N	U	R	E	V	J	U	S	P
Q	X	F	U	S	A	Z	T	M	U	V

Living : Seed, Earthworm, Rhizobium, Microbes, Ox  
Non living: Plough, Urea, NPK, Manure, Hoe

- 21. (a) Name the tool used with a tractor for sowing seeds in a field.**  
**(b) What are the advantages of using this tool?**

**Soln:**

- a) **Seed drill** is the tool used with a tractor for sowing seeds in a field.
- b) Advantages of seed drill are as follows
- Seeds are sown at uniform distance and depth. This avoid overcrowding of the seeds in one location.
  - After sowing seeds are covered by soil which will protect seeds from.
  - It saves time and labor.

- 22. (a) Name the practice followed for large scale rearing of farm animals.**  
**(b) What facilities are provided to farm animals?**

**Soln:**

- a) Animal Husbandry  
b) Animals should be provided with shelter, food and care.

- 23. Clasify the following crops into Khariff and Rabi crops and write in the tabular column given below:**  
**Maize, paddy, mustard, pea, gram, wheat, groundnut, cotton.**

**Soln:**

<b>Khariff</b>	<b>Rabi</b>
Maize	Mustard
Paddy	Pea
Groundnut	Gram
Cotton	Wheat

Long Answer Questions

- 24. Despite favourable climatic conditions, a farmer's crop failed to give good yield. Give the possible reasons for this.**

**Soln:**

Possible reasons for failed crop despite of favorable climatic conditions are

- 1) Farmer might not have used quality seeds
- 2) His land was not irrigated
- 3) Farmer did not used appropriate fertilizer and manure
- 4) Weeds are not removed
- 5) Soil was not ploughed and tilled properly.

**25. As a part of eco-club activity students were asked to raise a kitchen garden in the school premises. They were provided with some materials given in the box. List the other materials you would require. How will you plan the garden? Write the steps.**

**Soln;**

Along with the given materials students require seeds, vegetable seedling, plants from nursery,, soil, manure and water.

**Steps to raise the garden**

- Kitchen waste are collected and composted in a pit.
- Suitable place to obtain sunlight is chosen to plant the plants.
- Soil is dug with the help of spade.
- Seeds are sown with adequate spacing.
- Water the plants regularly
- Compost is added to the base of the plant
- Weeds are removed periodically.

**26. Paddy is a major cereal crop in our country.**

**(a) In which season is paddy cultivated?**

**(b) Discuss the method of sowing.**

**(c) What measures must be taken to prevent spoilage and insect attack of harvested grains.**

**Soln:**

- a) Paddy is cultivated in rainy season.
- b) Seeds are first grown in a nursery and these planting are transplanted in the paddy field.
- c) After harvesting grains are sundried and are stored in jute bags or storage silo's.



27. Unscramble the words related to crop production and its management and write in the boxes given beneath them.

(i) I L O S S  
[ ] [O] [ ] [ ] [O]

(ii) N G I R E H T S H  
[ ] [O] [O] [ ] [ ] [ ] [ ] [O] [ ]

(iii) R I T I A G I R O N  
[ ] [ ] [ ] [ ] [O] [O] [O] [ ] [ ] [ ]

(iv) V E R I R  
[ ] [ ] [O] [O] [ ]

Now, using the circled letters, form one word which is an activity carried out in fields, after maturation of crops.

**Soln:**

- i) SILOS
- ii) THRESHING
- iii) IRRIGATION
- iv) RIVER

28. Given below is a conversation between two farmers Heera and Beera.

**Heera :** Brother Beera, your maize crops looks beautiful! They have grown pretty fast.

**Beera :** Yes, I have sprayed urea this time. What about you?

**Heera :** Well, I am still relying on good old cow dung. I am saving money for buying a tractor.

**Beera :** That's good. Tractor saves a lot of time and labour.

**Heera :** Yes, it's been very labour intensive for me and now these weeds have come up.

**Beera :** Try weedicides, they are very effective.

Now answer the following questions.

- (i) List the practices which are not environment friendly and why?

- (ii) **What is the advantage of modern agriculture implements over traditional ones?**
- (iii) **Name one weedicide and the precaution farmers must take during its application.**

**Soln:**

- i) Use of fertilizers, pesticides, weedicides and other chemical is not an eco-friendly way of cultivation as their usage will reduce the fertility of soil and also pose a threat to human health.
- ii) Modern agricultural practices lot and time and labor for the farmers. Modern agricultural practices imposes accuracy and efficiency of farming procedures.
- iii) 2,4-D is a weedicide.

Farmers should take following precautions before applying weedicide

- Cover Nose and Mouth
- Avoid excess usage of weedicide

**29. For discussion Despite being one of the growing economies, our country still has a large section of population going hungry and malnourished. Do you think an efficient crop production mechanism is the only solution to this? Discuss in the class what else needs to be done to root out hunger and malnutrition from our country.**

**Soln:**

India, a growing economy with agriculture is a main contributor in its growth. Agriculture is science of cultivating plants, animals and other life forms for food and other sources, Despite large production of crops by agricultural practices, people still go hungry and malnourished. This happens because of inefficient crop production and management. In India, an increase in production of food grains has been observed from 1960 to 2004. With efficient management, the crop production can be enhanced and improved to feed the country's poor. A few steps in this direction can be:

1. Selection of high field seeds for planting the seeds with increased yield and reduced growth period.
2. Management of crop production: The financial aspects of agriculture should be made more approachable to farmers at all levels.
3. Information regarding use of chemicals, manures, cropping patterns, nutrient quality and irrigation facilities should be discussed and propagated among farmers.
- 4 Protection of crops : The agricultural produce should be shared efficiently to reduce the microbial or other organisms from infesting the produce. Pest and weed control measures should be adopted.

A large amount of crops get spoiled during storage by different living and non-living factors. Living factors include rodents, microbes and insects. Non-living factors are moisture, temperature and hygiene of storage place. Keeping these factors in mind, we can reduce the economic losses, increase the marketability and feed the country's poor.

**30. Terms related to agricultural practice are given below. Rearrange them in the correct sequence.**

**harvesting, sowing, manuring, tilling and ploughing, irrigation, de-weeding.**

**Soln:**

Correct sequence of agricultural practices are

- i) tilling and ploughing
- ii) Sowing
- iii) Manuring
- iv) Irrigation
- v) Weeding
- vi) Harvesting

**i) Tilling and ploughing:**

One of the most important tasks in agriculture is to turn the soil and loosen it. This allows the roots to penetrate deep into the soil. The loose soil allows the roots to breathe easily even when they go deep into the soil. The process of loosening and turning of the soil is called tilling or ploughing.

**ii) Sowing:**

After tilling and ploughing healthy seeds are collected and they are sown into considerable depth.

**iii) Manuring**

Plants are manured with humus which improves texture of the soil and replenish nutrients in the soil.

**iv) Irrigation**

Irrigation helps to water the plants regularly which will help in keeping moisture of plants.

**v) Weeding**

Weeds are removed before they get matured as they compete with crops for water, nutrients and sunlight.

**vi) Harvesting**

Cutting and gathering matured crops is known as harvesting. Harvesting can be done manually as well as by using harvesters.

## CLASS 8: SCIENCE (ALL CHAPTERS)







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Beauty & Wellness



Design Thinking & Innovation



Financial Literacy



Handicrafts



Information Technology



Marketing/Commercial Application



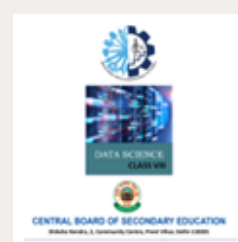
Mass Media - Being Media Literate



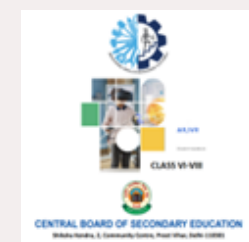
Travel & Tourism



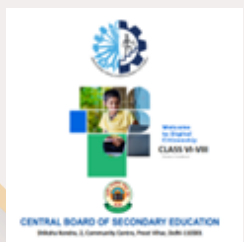
Coding



Data Science (Class VIII only)



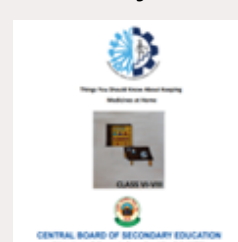
Augmented Reality / Virtual Reality



Digital Citizenship



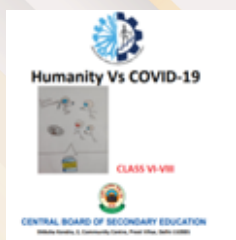
Life Cycle of Medicine & Vaccine



Things you should know about keeping Medicines at home



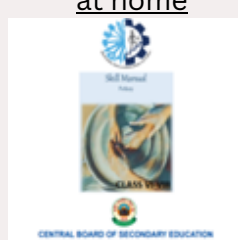
What to do when Doctor is not around



Humanity & Covid-19



Blue Pottery



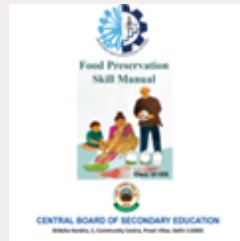
Pottery



Block Printing



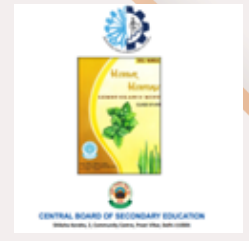
Food



Food Preservation



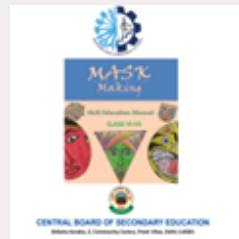
Baking



Herbal Heritage



Khadi



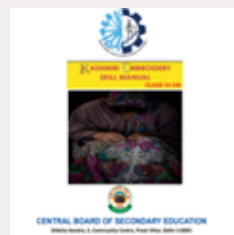
Mask Making



Mass Media



Making of a Graphic Novel



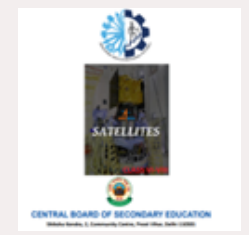
Kashmiri Embroidery



Embroidery



Rockets



Satellites

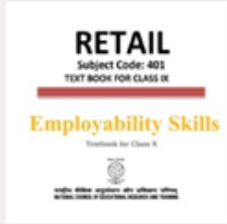


Application of Satellites

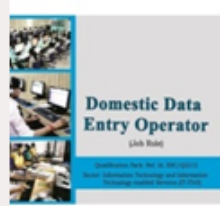


Photography

# SKILL SUBJECTS AT SECONDARY LEVEL (CLASSES IX – X)



Retail



Information Technology



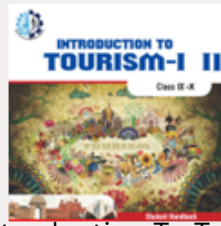
Security



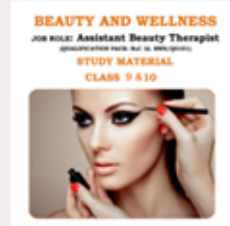
Automotive



Introduction To Financial Markets



Introduction To Tourism



Beauty & Wellness



Agriculture



Food Production



Front Office Operations



Banking & Insurance



Marketing & Sales



Health Care



Apparel



Multi Media



Multi Skill Foundation Course



Artificial Intelligence



Physical Activity Trainer



Data Science



Electronics & Hardware (NEW)



Foundation Skills For Sciences (Pharmaceutical & Biotechnology)(NEW)



Design Thinking & Innovation (NEW)



# SKILL SUBJECTS AT SR. SEC. LEVEL (CLASSES XI – XII)



Retail



Information Technology



Web Application



Automotive



Financial Markets Management



Tourism



Beauty & Wellness



Agriculture



Food Production



Front Office Operations



Banking



Marketing



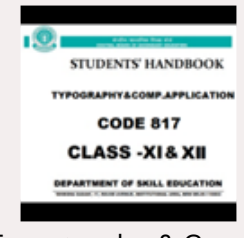
Health Care



Insurance



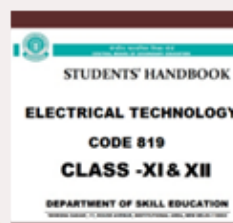
Horticulture



Typography & Comp.  
Application



Geospatial Technology



Electrical Technology



Electronic Technology



Multi-Media



Taxation



Cost Accounting



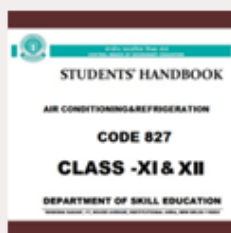
Office Procedures & Practices



Shorthand (English)



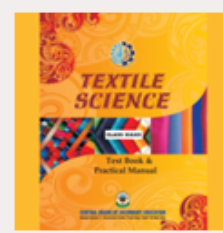
Shorthand (Hindi)



Air-Conditioning & Refrigeration



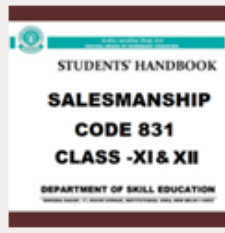
Medical Diagnostics



Textile Design



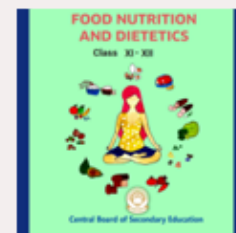
Design



Salesmanship



Business Administration



Food Nutrition & Dietetics



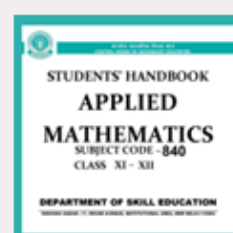
Mass Media Studies



Library & Information Science



Fashion Studies



Applied Mathematics



Yoga



Early Childhood Care & Education



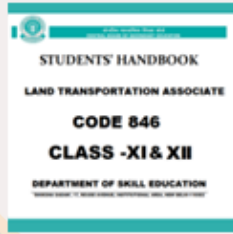
Artificial Intelligence



Data Science



Physical Activity Trainer(new)



Land Transportation Associate (NEW)



Electronics & Hardware (NEW)



Design Thinking & Innovation (NEW)